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ELECTRONIC DATA-PROCESSING PROGRAMME

Report by the Director-General

Summary

In compliance with General Conference decision GC.4/Dec.18, paragraph (h), reports on the programme and cost of implementing the recommendations of Touche Ross Management Consultants and of the External Auditor, as contained in documents GC.4/CRP.1 and GC.4/50.

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1. The General Conference, in its decision GC.4/Dec.18, inter alia, took note of the updated report by the External Auditor on the electronic data-processing (EDP) system (GC.4/50), of the follow-up report by the Director-General on the recommendations of the External Auditor (GC 4/48) and of the final report of Touche Ross Management Consultants (GC.4/CRP.1). In paragraph (h) of that decision the Conference requested a report from the Director-General on the programme and cost of implementing the recommendations of the consultants and of the External Auditor as contained in their respective reports (GC.4/CRP.1 and GC.4/50). The present report addresses that request by providing in annexes I and II the status of action taken with respect to the recommendations of the consultants and of the External Auditor.

2. Both sets of recommendations referred to the need for an external consultancy to carry out a second phase of the strategic automation plan for information systems needs and priorities. Terms of reference for a consultancy to that effect, including detailed criteria for technical evaluation, were evaluated by the Information Technology Steering Committee and recommended by the Committee in November 1991 for implementation. The requested services are in the form of assistance to the Secretariat for a strategic analysis phase, the development of an organization-wide data model and the preparation of an implementation plan based on priorities endorsed by the Committee. They also include assistance in selecting an information systems development methodology and tools as well as related training of technical staff. A contract was awarded to Andersen Consulting to carry out phase two of the strategic automation plan based on those terms of reference. The cost of phase two, $260,000, is covered by allocations from the budgets for 1990-1991 and 1992-1993.

3. Annex III shows the 1992 costs of implementing the computerization programme. In cases where it is possible to specify the cost of implementing recommendations of the consultants and of the External Auditor, that information is indicated in the relevant portions of annexes I and II. In some instances, for example the establishment of codes for distributing charges or activities of the Information Technology Steering Committee, the cost of acting on related recommendations cannot be precisely specified at this time as the implementation of many of the recommendations is in progress. Total costs will not exceed amounts budgeted for EDP-related expenditure.

4. In paragraph (i) of decision GC.4/Dec.18, the General Conference requested the Director-General to keep Member States fully apprised of the EDP programme by quarterly briefings and informal notes. The first such briefing, covering the first quarter of 1992, was held on 6 March 1992, and provided orally much of the information contained in annex I to the present report.

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Annex I

STATUS OF ACTION TAKEN ON PRIMARY RECOMMENDATIONS OF TOUCHE ROSS MANAGEMENT CONSULTANTS [a/]

PRIMARY RECOMMENDATIONS	CURRENT STATUS
1. There is a need for a systematic review of procedures within UNIDO. This review must come about from a management initiative and cannot be led by EDP. There is too much duplication of effort and too much reliance on paper-based methods. (8.1.2)	1. As part of the second phase of the strategic automation plan, a review is currently under way. The Department of Administration is streamlining its procedures with primary focus on eliminating duplication of effort and reducing paper flow. Constructive revisions would have a direct impact on procedures currently in use in substantive Departments, warranting the reorganization of administrative support work in those areas.
2. Charge codes for use of computer time should be set up, at a level low enough to ensure the collection of meaningful statistics, to be used as the basis for charging users. (8.1.1)	2. A system of codes has been established; data is being collected to form a basis for charging users for computer time.
3. An information technology steering group should be created. This group should ensure that distraction of EDP from their main task is minimized. (8.1.1)	3. The Information Technology Steering Committee was established on 29 October 1991 (UNIDO/DG/B.148, GC.4/50/Add.1, para. 7) and meets regularly. A number of recommendations have been made to the Director-General on substantive issues related to the EDP programme.
4. The information technology steering group should identify and sanction any proposed changes to packages. (8.1.3)	4. Only cost reductions have been achieved to date. No acquisitions have yet been considered.
5. Extensive training of EDP will be required in the use of new methods and tools. (8.1.3)	5. As part of the second phase of the plan, an information systems development methodology (and corresponding tools) have been selected and staff members with the consultants are in the process of being trained. In addition, as recommended by Touche Ross, ADABAS/NATURAL training is taking place. (cost of training: $61,600)
6. Further investment in current systems should be avoided. Maintenance of existing systems must be restricted to changes which are absolutely essential, even if this will undoubtedly lead to dissatisfaction in the user community. The commitment of management is vital to maintain the support and understanding of the user community during this difficult period. (8.1.3)	6. The priorities for systems development and maintenance are currently being analyzed as part of phase two of the plan. A recommendation to reach a balance of resources devoted to new projects and enhancement of existing systems will be presented to the Information Technology Steering Committee for consideration. User community needs will remain the foremost consideration during transition.

a/ References in the column "Primary recommendations" refer to sections of the final report of Touche Ross (GC.4/CRP.1).

7. The use of package application software should be viewed as a primary source of new systems. (8.1.3) The option of obtaining a suitable package should be considered first and, only after dismissing this possibility should the option of developing in-house be considered. (8.3.1) Packages should only be chosen where the amount of customization needed can be kept to a minimum. (8.3.1) Changes to packages should be kept to a minimum and reflect only changes which are essential. (8.1.3)	7. The use of package application software vs. customized applications development is also part of the current work of the second phase. Due to the specialized requirements of applications, however, it is envisaged that selection of package application software will be limited. All decisions will be subject to cost benefit analysis. In addition, constraints imposed by limited funds for software package acquisition will restrict these selections during the current biennium.
8. If FINSYS/PERSYS of FAO is put in place and modifications are needed, these should be contracted out, together with future maintenance, to a third party software house rather than build another skill set within UNIDO. (8.3.1)	8. Not yet ready for a decision. Preliminary discussions with FAO have indicated substantial financial and staffing impacts as well as the advisability of further experience within FAO prior to a secure transfer attempt.
9. Parallel running is essential in the transitional period of testing a new system. Both users and EDP have to support and operate both systems. This requires an increased amount of effort from all parties. (8.1.3)	9. With the development of new applications, parallel runs will be necessary. However, the use of a systems development methodology and CASE tools may reduce the amount of parallel effort required.
10. EDP will need to have in place a formal process for managing development projects, analyzing user requirements and for turning the requirements into quality applications. (8.2) For this, the PRINCE methodology should be used and PRINCE project boards put in place. (8.2.1) UNIDO should acquire a project management tool, running on a PC, to assist in the control of projects. (8.2.1) UNIDO should acquire a methodology to provide EDP with a clear structure for development and give a list of tasks to be performed at each stage in the systems development life-cycle: strategic systems planning, tactical systems planning, systems analysis and logical design, selection of packages, building of custom-written systems, systems implementation. Automated tools should also be acquired to support the analysis and design stages (CASE tools). (8.2.2)	10. As a result of the second phase, a methodology similar to PRINCE has been selected which incorporates a process for managing development projects. This methodology incorporates the same principles plus a project management component, i.e. without the need to acquire a separate product. The methodology is supported by a set of CASE tools.
11. DB2, CSP, AS, C, FORTRAN, Oliver and the VM products should be cancelled. ADABAS and NATURAL should become the strategic data base products of UNIDO. (8.3.1, appendix II)	11. DB2, CSP, AS, C and the VM products have been cancelled. The exception of FORTRAN and Oliver were cleared by Touche Ross. Training of staff in ADABAS and NATURAL is taking place in order to turn these into the strategic base products.
12. No further new development work should be carried out using ADS1. (8.3.1)	12. The ADS1 software package will continue to be used only in conjunction with existing applications. Functional replacement based on an extension of ADABAS is foreseen for new projects.

13. Better communications with the field need to be put in place. In the long-term, if and when it can be cost-justified, computer-based communications can be considered. (8.1.1)	13. Usage of the International Computing Centre Geneva has been strongly recommended to users. The European Academic Research Network is currently available to UNIDO staff. Enhancement of field communications is also part of the second phase and is subject to the availability of funds.
14. The cabling programme should be resumed with the wiring of six floors in 1992-1993 and the remainder in 1994-1995. Priority should be given to those floors with greatest needs. (8.3.2)	14. A contract was signed at the end of 1991 for the wiring of two priority floors (cost: $105,660, included in the budget for the current biennium). The expansion of the cabling system commenced in the fourth quarter of 1991 and will continue in 1992 (cost: $108,000). A 1993 cabling programme will be considered by the Information Technology Steering Committee later in 1992.
15. PCs in EPL/LD must be connected by means of a LAN. (8.3.2) The WANG VS processors should be phased out in approximately two years. (8.3.2, 8.3.3)	15. Phasing out of Wang can be contemplated once sufficient funds are available for the acquisition of hardware required for full conversion to WordPerfect. This will constitute a significant cost within the programme. Cost estimates will not be available until detailed specifications and competitive bidding have been completed.
16. To remove the WANG systems it will be necessary to adopt a standard of WordPerfect across UNIDO. (8.3.3)	16. Preparatory work will start in 1993. Project completion funds are contemplated in the 1994-1995 budget as forecasted.
17. PCs with WordPerfect must be provided to all staff who rely upon WANG for word processing. (8.3.3) Adequate training in WordPerfect must be provided. (8.3.3)	17. WordPerfect is being proposed as the standard word processing software. Training in WordPerfect is being provided.
18. The acquisition of 90 PCs per biennium should go a long way towards satisfying UNIDO's needs. (8.3.2)	18. In the MIS budget for 1992-1993 funds are available for 75 complete sets (PC-printer-software-connection) (estimate cost: $377,000). A re-allocation exercise was promulgated by the Information Technology Steering Committee and will be completed within the Departments. A number of PCs are to be used as spares to compensate for the reduced maintenance contracts support, in line with Touche Ross recommendations (GC.4/CRP.1).

Annex II

STATUS OF ACTION TAKEN ON RECOMMENDATIONS OF THE EXTERNAL AUDITOR [a/]

PRIMARY RECOMMENDATIONS	CURRENT STATUS
1. A system should be established to spread all EDP non-staff costs among different user Departments. (12, 45, 46)	1. As a first step towards a cost distribution system, the Secretariat has established a system of codes to record mainframe processing usage according to specific applications and users by Department, Division and Section. Pending the implementation of an information systems development methodology (see recommendation 2 below), the Secretariat will be in the position to distribute EDP-related staff costs for systems development and maintenance (possibly in 1993). The methodology, which will include a project management component, will require the recording of staff time associated with the development and maintenance of a system and would also include mechanisms to hold users or potential users accountable for their requests.
2. There is a need for other external consultancy services in order to proceed with implementation of the more technical Touche Ross recommendations as well as for other technical and organizational issues. (15, 39, 61)	2. Owing to time constraints imposed on Touche Ross Management Consultants, their recommendations regarding information systems needs, priorities and the ensuing implementation schedule necessarily contemplated a second phase of the strategic automation plan. The status of phase two of the plan is explained in paragraph 2 of the present document.
3. A disaster recovery plan should be worked out which would enable both UNIDO and the IAEA to mutually provide a backup computer installation at no additional costs. (16, 62-65)	3. A disaster recovery plan was drafted under the facilities management contract with IBM, and an arrangement with IAEA to provide mutual backup for critical applications in case of a major disaster is foreseen. Negotiations have taken place with IAEA and arrangements will be continued pending an operating system upgrading at IAEA following their recent installation of new hardware. First test runs for limited service have been performed, and project completion is expected in 1992.

a/ References in the column "Primary recommendations" refer to paragraphs in the report of the External Auditor (GC.4/50).

	Under the new facilities management contract IBM provides a reduced portable version of the system software, which will be updated monthly, for use in case of disaster.
4. An information technology steering group should be established. (17, 66-70)	4. Status provided in recommendation no. 3, annex I.
5. A system for managing, controlling and auditing automation projects should be introduced. (18, 71-75)	5. Recommendations made by the Working Group of Independent Experts for the introduction of a specific methodology for the management, control and auditing of information systems projects were also reflected in the final report of Touche Ross Management Consultants (GC.4/CRP.1, section 8.2.1). A system that achieves the objectives laid down by Touche Ross is included in the integrated information systems development methodology being selected during phase two of the strategic automation project and will be applied to future projects.

Annex III

COST OF IMPLEMENTATION OF EDP PROGRAMME - 1992

(In US dollars at US$ 1 = AS 12.90)

	1992 allotments (1)	Disbursements 1/1 - 29/2/92 (2)	Obligations (3)	Expenditure (2+3) = (4)	Balance (1-4) = (5)
Staff costs	1,865,400	277,155	-	277,155	1,588,245
Income	(140,200)	-	-	-	(140,200)
Mainframe					
Hardware	853,200	-	853,116	853,116	84
Software	693,200	-	632,848	632,848	60,352
Operation and maintenance	1,057,300	-	1,057,300	1,057,300	-
Office automation					
Hardware	566,100	-	270,047	270,047	296,053
Software	50,000	-	-	-	50,000
Maintenance	349,600	1,997	167,393	169,390	180,210
Other					
Supplies and materials	239,500	284	78,637	78,921	160,579
Network	192,400	-	57,637	57,637	134,763
External computer costs	35,000	-	35,000	35,000	0,00
Training	128,100	14,429	82,184	96,613	31,487
Consultancy support	100,000	-	65,000	65,000	35,000
Software development	77,500	-	400	400	77,100
Income	(160,000)	-	-	-	(160,000)
	5,907,100	293,865	3,299,562	3,593,427	2,313,673

Notes

1. Allotments represent the 1992 portion of 1992-1993 appropriations excluding inflation on non-staff costs.

2. Obligations include contractual commitments for 1992. Disbursements against obligations will commence in March 1992.

3. Income will be charged in March 1992 for the first quarter.